WHAT IS CLAIMED IS

1. A lens actuator comprising:

a lens holder to support an objective lens, said lens holder having a pair of first side surfaces in a tracking direction and a pair of second side surfaces in a tangential direction;

wire springs, provided on the first side surfaces of the lens holder, to support the lens holder;

a pair of fixed magnets disposed to confront the second side surfaces of the lens holder, each of the magnets having four regions which are defined by mutually perpendicular first and second magnetic boundary lines and have approximately the same area and are magnetic, such that magnetic directions of the four regions are perpendicular to a plane including a focusing direction and the tracking direction but are in opposite directions between two mutually adjacent regions, said first magnetic boundary line extending in the focusing direction, said second magnetic boundary line extending in the tracking direction;

a pair of yokes having a predetermined thickness

and having the corresponding magnets fixed thereon;

first coils disposed between each second surface of the lens holder and each magnet and arranged on both sides of the first magnetic boundary line along the second magnetic boundary line of each magnet, said first coils being arranged symmetrically with respect to an optical axis of the objective lens; and

second coils disposed between each second surface of the lens holder and each magnet and arranged on both sides of the second magnetic boundary line along the first magnetic boundary line of each magnet, said second coils being arranged symmetrically with respect to the optical axis of the objective lens,

a first pair of diagonally arranged first coils generating thrusts in the same direction and a second pair of diagonally arranged first coils generating thrusts in mutually opposite directions, in response to power supplied independently thereto.

2. The lens actuator as claimed in claim 1, wherein the first pair of first coils form focusing coils to generate thrusts in the focusing direction, the

second pair of first coils form radial tilt coils to generate thrusts in the focusing direction, and the second coils form tracking coils to generate thrusts in the tracking direction.

3. The lens actuator as claimed in claim 2, wherein:

of three kinds of coils made up of the focusing coils, the radial tilt coils and the tracking coils, at least two kinds have identical specifications.

4. The lens actuator as claimed in claim 1, wherein:

the first and second coils are approximately accommodated within a projection area of the magnets in the tangential direction.

5. An optical pickup unit comprising:

a light source to generate a light beam;

an objective lens to converge the light beam from the light source on a recording medium;

a lens actuator to move the objective lens, said lens actuator comprising:

a lens holder to support the objective lens, said lens holder having a pair of first side surfaces in a tracking direction and a pair of second side surfaces in a tangential direction;

wire springs, provided on the first side surfaces of the lens holder, to support the lens holder;

a pair of fixed magnets disposed to confront the second side surfaces of the lens holder, each of the magnets having four regions which are defined by mutually perpendicular first and second magnetic boundary lines and have approximately the same area and are magnetic, such that magnetic directions of the four regions are perpendicular to a plane including a focusing direction and the tracking direction but are in opposite directions between two mutually adjacent regions, said first magnetic boundary line extending in the focusing direction, said second magnetic boundary line extending in the tracking direction;

a pair of yokes having a predetermined

thickness and having the corresponding magnets fixed thereon;

first coils disposed between each second surface of the lens holder and each magnet and arranged on both sides of the first magnetic boundary line along the second magnetic boundary line of each magnet, said first coils being arranged symmetrically with respect to an optical axis of the objective lens; and

second coils disposed between each second surface of the lens holder and each magnet and arranged on both sides of the second magnetic boundary line along the first magnetic boundary line of each magnet, said second coils being arranged symmetrically with respect to the optical axis of the objective lens; and

a power supply section to supply power to the first and second coils so that the first coils generate thrusts in the focusing direction and the second coils generate thrusts in the tracking direction,

said power supply section independently supplying the power a first pair of diagonally arranged first coils and a second pair of diagonally arranged first coils, so that the first pair of first coils generate thrusts in the same direction and the second pair of first coils generate thrusts in mutually opposite directions.

6. An optical disk apparatus to record and/or reproduce information to and/or from an optical disk by a light beam, comprising:

a light source to generate the light beam;

an objective lens to converge the light beam from the light source on the optical disk;

a lens actuator to move the objective lens, said lens actuator comprising:

a lens holder to support the objective lens, said lens holder having a pair of first side surfaces in a tracking direction and a pair of second side surfaces in a tangential direction;

wire springs, provided on the first side surfaces of the lens holder, to support the lens holder;

a pair of fixed magnets disposed to confront the second side surfaces of the lens holder, each of the magnets having four regions which are defined by mutually perpendicular first and second magnetic boundary lines and have approximately the same area and are magnetic, such that magnetic directions of the four regions are perpendicular to a plane including a focusing direction and the tracking direction but are in opposite directions between two mutually adjacent regions, said first magnetic boundary line extending in the focusing direction, said second magnetic boundary

line extending in the tracking direction;

a pair of yokes having a predetermined thickness and having the corresponding magnets fixed thereon;

first coils disposed between each second surface of the lens holder and each magnet and arranged on both sides of the first magnetic boundary line along the second magnetic boundary line of each magnet, said first coils being arranged symmetrically with respect to an optical axis of the objective lens; and

second coils disposed between each second surface of the lens holder and each magnet and arranged on both sides of the second magnetic boundary line along the first magnetic boundary line of each magnet, said second coils being arranged symmetrically with respect to the optical axis of the objective lens; and

a power supply section to supply power to the first and second coils so that the first coils generate thrusts in the focusing direction and the second coils generate thrusts in the tracking direction,

said power supply section independently supplying the power a first pair of diagonally arranged first coils and a second pair of diagonally arranged first coils, so that the first pair of first coils generate thrusts in the same direction and the second pair of

first coils generate thrusts in mutually opposite directions.

7. A lens actuator comprising:

a lens holder to support an objective lens, said lens holder having a pair of first side surfaces in a tracking direction and a pair of second side surfaces in a tangential direction;

a fixed magnet disposed to confront the second side surface of the lens holder, said magnet comprising four regions having approximately the same area and are magnetic, such that magnetic directions of the four regions are perpendicular to a plane including a focusing direction and the tracking direction but are in opposite directions between two mutually adjacent regions;

a pair of tracking coils disposed between the second surface of the lens holder and the magnet and having centers located on an outer side of corresponding centers of the four regions of each magnet in the tracking direction, said pair of tracking coils being arranged symmetrically with respect to an optical axis

of the objective lens;

a focusing coil disposed between the second surface of the lens holder and the magnet, and having a center located on an outer side of corresponding centers of the four regions of the magnet in the focusing direction; and

a radial tilt coil disposed between the second surface of the lens holder and the magnet, and having a center located on an outer side of corresponding centers of the four regions of the magnet in the focusing direction.

8. The lens actuator as claimed in claim 7, wherein the tracking coils generate thrusts in the tracking direction, and the focusing coil and the radial tilt coil generate thrusts in the focusing direction, in response to power supplied thereto.

9. The lens actuator as claimed in claim 7,

wherein:

of three kinds of coils made up of the tracking coils, the focusing coil and the radial tilt coil, at least two kinds have identical specifications.

10. The lens actuator as claimed in claim 7, wherein the tracking coils, the focusing coil and the radial tilt coil are approximately accommodated within a projection area of the magnet in the tangential direction.

11. An optical pickup unit comprising:

a light source to generate a light beam;

an objective lens to converge the light beam from the light source on a recording medium;

a lens actuator to move the objective lens, said lens actuator comprising:

a lens holder to support the objective lens, said lens holder having a pair of first side surfaces in

a tracking direction and a pair of second side surfaces in a tangential direction;

a fixed magnet disposed to confront the second side surface of the lens holder, said magnet comprising four regions having approximately the same area and are magnetic, such that magnetic directions of the four regions are perpendicular to a plane including a focusing direction and the tracking direction but are in opposite directions between two mutually adjacent regions;

a pair of tracking coils disposed between the second surface of the lens holder and the magnet and having centers located on an outer side of corresponding centers of the four regions of each magnet in the tracking direction, said pair of tracking coils being arranged symmetrically with respect to an optical axis of the objective lens;

a focusing coil disposed between the second surface of the lens holder and the magnet, and having a center located on an outer side of corresponding centers of the four regions of the magnet in the focusing direction; and

a radial tilt coil disposed between the second surface of the lens holder and the magnet, and having a center located on an outer side of corresponding centers

of the four regions of the magnet in the focusing direction; and

a power supply section to supply power to the tracking coils, the focusing coil and the radial tilt coil so that the tracking coils generate thrusts in the tracking direction and the focusing coil and the radial tilt coil generate thrusts in the focusing direction,

said power supply section independently supplying the power to the focusing coil and the radial tilt coil.

12. An optical disk apparatus to record and/or reproduce information to and/or from an optical disk by a light beam, comprising:

a light source to generate the light beam;

an objective lens to converge the light beam from the light source on the optical disk;

a lens actuator to move the objective lens, said lens actuator comprising:

a lens holder to support the objective lens, said lens holder having a pair of first side surfaces in a tracking direction and a pair of second side surfaces in a tangential direction;

a fixed magnet disposed to confront the second side surface of the lens holder, said magnet comprising four regions having approximately the same area and are magnetic, such that magnetic directions of the four regions are perpendicular to a plane including a focusing direction and the tracking direction but are in opposite directions between two mutually adjacent regions;

a pair of tracking coils disposed between the second surface of the lens holder and the magnet and having centers located on an outer side of corresponding centers of the four regions of each magnet in the tracking direction, said pair of tracking coils being arranged symmetrically with respect to an optical axis of the objective lens;

a focusing coil disposed between the second surface of the lens holder and the magnet, and having a center located on an outer side of corresponding centers of the four regions of the magnet in the focusing direction; and

a radial tilt coil disposed between the second surface of the lens holder and the magnet, and having a center located on an outer side of corresponding centers of the four regions of the magnet in the focusing direction; and

a power supply section to supply power to the tracking coils, the focusing coil and the radial tilt coil so that the tracking coils generate thrusts in the tracking direction and the focusing coil and the radial tilt coil generate thrusts in the focusing direction,

said power supply section independently supplying the power to the focusing coil and the radial tilt coil.